ABBE (R.)

A Case of Hemiplegic Epilepsy, probably Diabetic, simulating Cerebral Abscess.

BY

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A CASE OF HEMIPLEGIC EPILEPSY,

PROBABLY DIABETIC, SIMULATING CEREBRAL ABSCESS.*

By ROBERT ABBE, M. D.

The case the history of which I am about to narrate presents features of much interest to the physician as well as the surgeon, and bears directly on diagnosis in cerebral surgical disease.

The patient was an active man of forty-four years and in exceptionally good health until attacked by the grippe on last Christmas. His influenza was of a severe type—general pains, prostration, sore throat, cough. The sore throat seems to have been the worst, and swallowing was difficult. Two or three days later severe pain began in the left ear, and suppurative otitis media was established. The discharge diminished but never ceased. He was unable to resume work, lost flesh and strength. There were no cerebral symptoms, and he was able to be about. A few days after the onset of his trouble—that is, about January 1st—he observed a marked increase in the frequency and quantity of urination, but no examination of it was then made.

In February he noticed a growing difficulty in giving expression to certain words. This and the patient's general condition seemed a little worse on alternate days. He had one or

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two headaches weekly, mostly left-sided, with tendency to vertigo. Became rather somnolent.

On March 4th he became dizzy, his legs gave way, and he fell while walking in the street. A sensation "like a shock of wind," as he expressed it, seemed to start in the right foot and spread very rapidly over the right leg, arm, and side. The paresis seemed to come on gradually, as he felt less and less able to walk, and finally dropped, not unconscious but unable to walk.

March 9, 1890.—Admitted to St. Luke's Hospital, under Dr. George L. Peabody's care. Examination showed that the patient had a mitral murmur; no paralyses; no deviation of tongue; no anæsthesia. Pupils reacted to light. Knee-jerk absent. The other reflexes were present, the plantar rather exaggerated. There was a purulent discharge from the left ear, with perforation of the drum. His skin was dry, tongue coated with brown fur, but moist. Pulse, 80; temperature, normal. The patient was somnolent. About an hour after admission he began to have convulsive movements of the right side, beginning in the foot, was given a hypnotic, and slept. The next morning he was able to walk with a limp. After breakfast another convulsion of the right leg, lasting half an hour. There was some paresis of the leg and hyperæsthesia of the right side, passing away quickly. Also a slight transient aphasia. His chief complaint was of general weakness and the discharge from the ear.

The urine was acid. Specific gravity, 1·042. Sugar, thirty-two grains to the ounce. No albumin. No casts. The ear was frequently syringed with boric-acid solution, and he was given bichloride of mercury, gr. $\frac{1}{32}$ t. i. d., with diabetic diet. During the following week his urine increased in quantity from forty to eighty-six ounces, and the sugar diminished to twenty six grains. There were several times each day attacks of numbness of the right arm and leg, with considerable loss of power. The patient could stand but not walk. He could not grasp with his right hand. There were no optic symptoms. During the attacks there was hesitation in speaking and difficulty in pronouncing some words. The mind was dull, but there was no

loss of memory. The attacks lasted from a few seconds to five or ten minutes and went off as suddenly as they came on. There was a vague history of early syphilis, and he was given eight doses daily of iodide of potassium, forty grains each.

On March 14th convulsive movements of the right arm and hand were noticed, and to a much less degree of the right leg and foot. These lasted only a few seconds and were followed by a stupid condition. Aphasia followed each attack.

17th.—At least two attacks daily were associated with convulsive movements of the right hand and arm. Mouth open widely; eyes closed. On coming out of one attack he was unconscious that it had happened. Examined by Dr. M. A. Starr with Dr. Peabody, no retinal changes were present.

20th.—Up to this date he had been having three or more marked epileptic seizures daily, beginning with numbness of the right leg and arm, and succeded by severe spasmodic convulsions limited to these members. It now extended to the same side of the face. His temperature also rose to 101°, having previously been normal, or nearly so. Evidence of mastoid inflammation also developed rapidly, and in twenty-four hours a well-marked suppurative mastoiditis was found, and he was transferred to my care for surgical relief.

His urine still showed no albumin or casts, but sugar, twenty-four grains to the ounce. During the succeeding twenty-four hours six similar epileptic seizures occurred, wholly limited to the right side. He was seen by Dr. Dana, who noted also some anæsthesia, as well as diminished muscular power of the right side. It was thought possible there might be an extension of suppuration by perforation from the mastoid, causing pressure upon the portions of the brain indicated by the parts involved in the seizures—namely, the centers for the leg, arm and face, and for speech. Preparation was made to operate upon the mastoid, and, if indicated, to trephine also over the ascending frontal convolution.

March 21st.—The patient was etherized and the mastoid well excavated of all suppurative tissue. A piece of loose sequestrum was found within the bone. The bone was so far removed as to undermine the dura constituting the floor of the lateral

sinus, and still further in a space the size of the finger nail of the roof of the petrous portion. Into these openings the director was passed between bone and dura mater for an inch in different directions, but no intracranial pus was found.

It was thought best to defer further operation.

After this the convulsive twitchings were slight, but recurred every half hour or less all the next day, lasting, however, only a minute. His tongue deviated to the right. His lips were drawn to the right. Between attacks he seemed fairly intelligent, but could not express himself. He would sometimes repeat words suggested correctly after vain attempts to make himself understood.

On the second day after operation the convulsions were more violent though not so frequent, and his general sense was more blunted.

On the third day I felt that the indications were more than ever for irritation of the cortex of the suspected convolution. The wound was in perfect condition, yet the temperature rose on this day to 102°, pulse varying from 72 to 100 at different hours—on the whole, a disproportionately slow one. The convulsions were wholly localized and the aphasia more complete, suggesting a left-side lesion directly related to the left-ear condition.

On March 24th, therefore, I trephined with a one-inch trephine just in front of the lower end of the Rolandic fissure as mapped out for me by Dr. Dana. The dura and brain seemed normal but a little full. Arachnoid fluid normal. A small puncture was made in the pia and a director gently pressed into the presenting convolution for an inch in three directions. Neither suppuration nor tumor was found. The dura was therefore sutured with fine catgut and the wound closed.

The operation had no appreciable effect on the condition of things. The convulsions were repeated every twenty minutes as before, and on the following day became more general, both sides of the body and face participating. His aphasia grew more complete.

On the third day the convulsions abated in frequency; only one occurred in the night and eight in the day. These were general though more marked on the right. He seemed to un-

derstand everything that was said and done, but could not make himself understood.

On the fifth day the convulsions came hourly, were more severe and more general. He gave evidence of exhaustion from this cause. His pulse became weaker. Temperature rose to 105·5° just before death, and he died, after a few hours, of coma.

The autopsy was made ten hours after death by Dr. Thacher, and was watched with great interest by Dr. Peabody, Dr. Starr, Dr. Kinnicutt, Dr. Robinson, Dr. Bangs, and others, besides myself. The brain and membranes, as far as gross examination revealed, were in an absolutely normal condition.

No trace of pus was found anywhere, even in the temporal bone. The arteries at the base and throughout the brain were scrutinized and found apparently normal.

Many close sections were made in the region about the Rolandic fissure as well as elsewhere, and a more normal appearing brain it would be difficult to find. The site of puncturing was exactly in the hand and face convolutions, and no harm had come from the use of the director.

(The linear scar in the brain substance is here shown.)

Further examination of the body showed an abdominal adhesion matting together the pancreas, spleen, and transverse colon. The pancreas was atrophied to a fibrous relic about one quarter its normal bulk. No suppurative process could be detected. It was impossible to say whether this was a recent or long-standing lesion.

Further consideration of the history and revelations of the autopsy led to the conviction that the train of remarkably delusive symptoms resulted from the poisoning of his system through the diabetic poison. This suppurative mastoiditis was undoubtedly the determining cause of irritation of the *left* convolutions.

Bibliography.

A. *Reference Hand-book of the Med. Sciences.*
(Dr. Kinnicutt, *Med. Rec.*, New York, vol. xxiv, p. 221.)

1. Facial hemiplegia; the patient died in syncope with sudden hemiplegia of the body.

2. Landesburg mentions a case of paralysis of the abducens

3. Dementia paralytica, Hamilton, *N. Y. Med. Journ.*, xl, 1–5.

Locomotor ataxia, tabes dorsalis, insanity, and hemiplegia, are all mentioned as occurring in conjunction with diabetes mellitus.

B. *Guy's Hospital Reports*, vol. xliv, 1886-1887, p. 189.

(Pavy, *On Clinical Aspect of Glycosuria. Brit. Med. Journ.*, 1885, ii, p. 1049.)

"Dr. Pavy states that nervous symptoms, especially spinal ones, are very apt to accompany diabetes. He has seen ataxia associated with it in a great many cases, the symptoms coming on either simultaneously or at different times. There may be pains in the limbs, a feeling of heaviness in the feet, darting or lightning pains, hyperæsthesia, deep-seated pain in the bones, and loss of knee-jerks."

Bouchard and Marie and Guignon, in an abstract in *Brit. Med. Journ.*, 1887, i, p. 236, direct special attention to the loss of knee-jerks.

Nervous symptoms occurred in one form or another in seventy-one out of one hundred and sixty-eight cases at Guy's.

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